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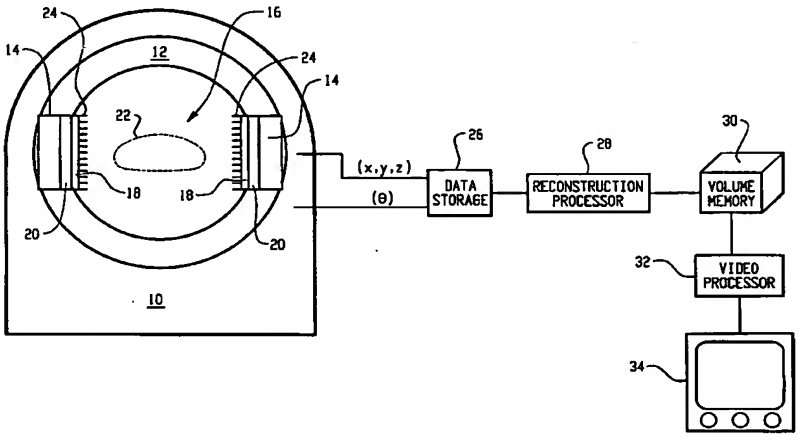
(54) Title: METHOD AND APPARATUS TO RECOVER A DEAD PIXEL IN DIGITAL IMAGING SYSTEMS



(57) Abstract: Gamma radiation events are received individually at elements of a detector array (18) at least one of the elements (P0) being defective. Each detector element converts incident radiation into a radiation event signal which is digitized by an analog-to-digital converter (42) into a coordinate position (x,y) on the detector array and energy (z). An event generator (48) generates radiation event signals for each defective element based on radiation events received at contributing elements, e.g., nearest neighbor elements (P1-P8). In a preferred embodiment, the contribution from each of the contributing elements is randomized by passing a token (56) among positions of a table (54) corresponding to each of the contributing elements. Each time a radiation event is received at the contributing element whose corresponding table position holds the token, that event also generates an event signal for the defective element and the token is passed (58). The energy of the generated event for the defective detector element is randomized (62), such as by replacing the least significant bits with random numbers.

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